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Raymond L. Strassburger
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

November 24, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20544

EX PARTE NOTICE

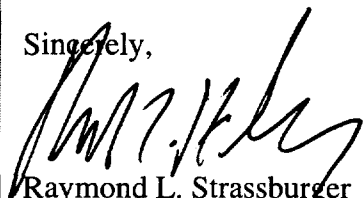
**Re: Ex Parte Presentation, *Deployment of Wireline Services*
Offering Advanced Telecommunications Capability
CC Docket No. 98-147; *Inquiry Concerning the Deployment*
Of Advanced Telecommunications Capability to All Americans
in a Reasonable and Timely Fashion CC Docket No. 98-146**

Dear Ms. Salas:

Pursuant to Section 1.1206 of the Commission's rules, enclosed are two copies for each referenced proceeding of an ex parte presentation that was made in a meeting with FCC personnel on November 23, 1998. In addition to the undersigned, Nortel Networks personnel attending the meeting included Wayne Getchell (Director, Subscriber Access Solutions) and Gary Bolton (Senior DSL Business Manager). FCC personnel were Jennifer Fabian (Common Carrier Bureau), Daniel Shiman (Common Carrier Bureau), and Johnson Garrett (Office of the Plans and Policy). Discussion at the meeting was based on the enclosed presentation which was distributed to the participants at the meeting.

If you have any questions, please communicate with the undersigned.

Sincerely,



Raymond L. Strassburger
Director, Government Relations, Telecommunications Policy

Cc: Jennifer Fabian
Johnson Garrett
Daniel Shiman

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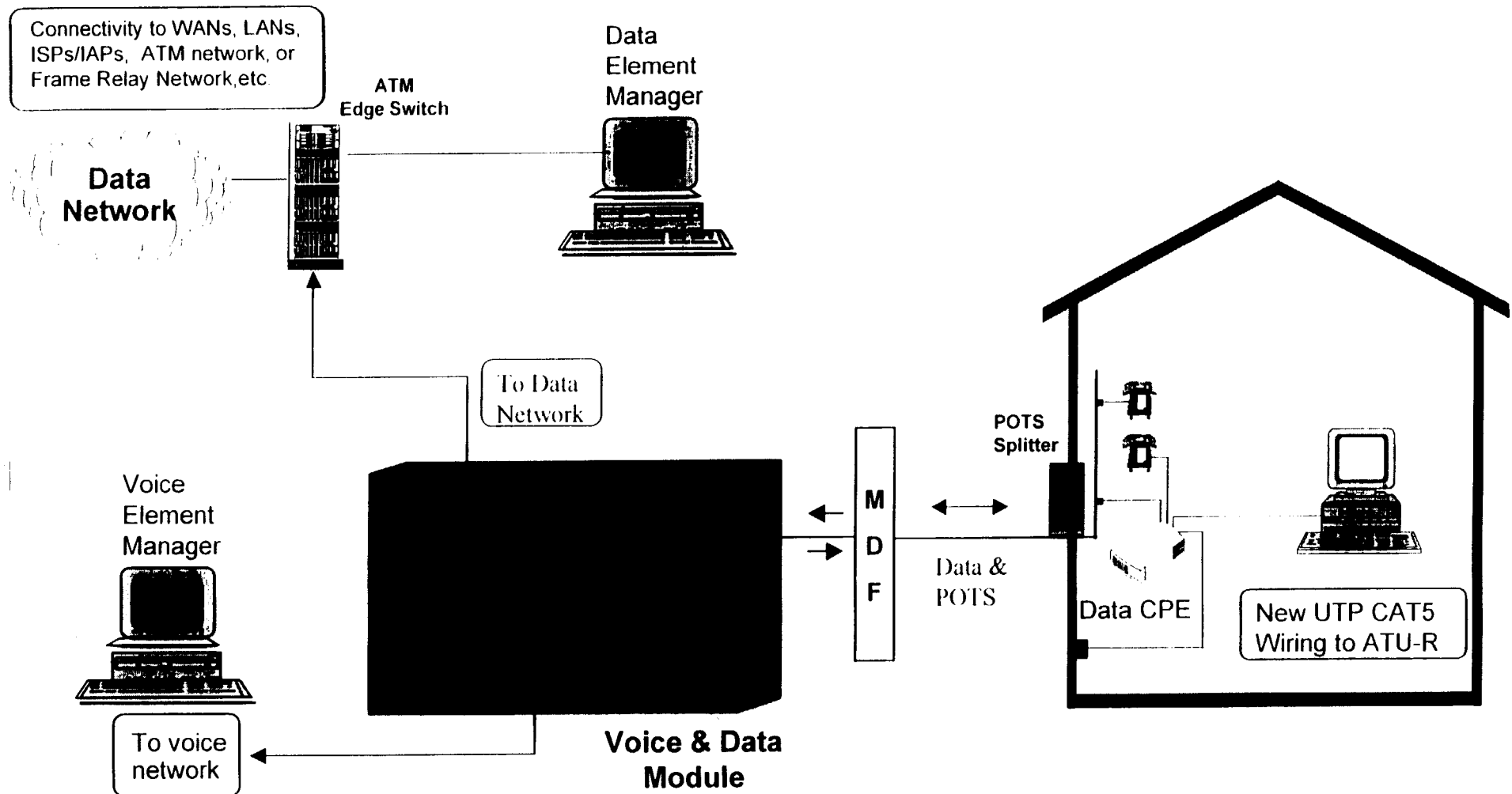
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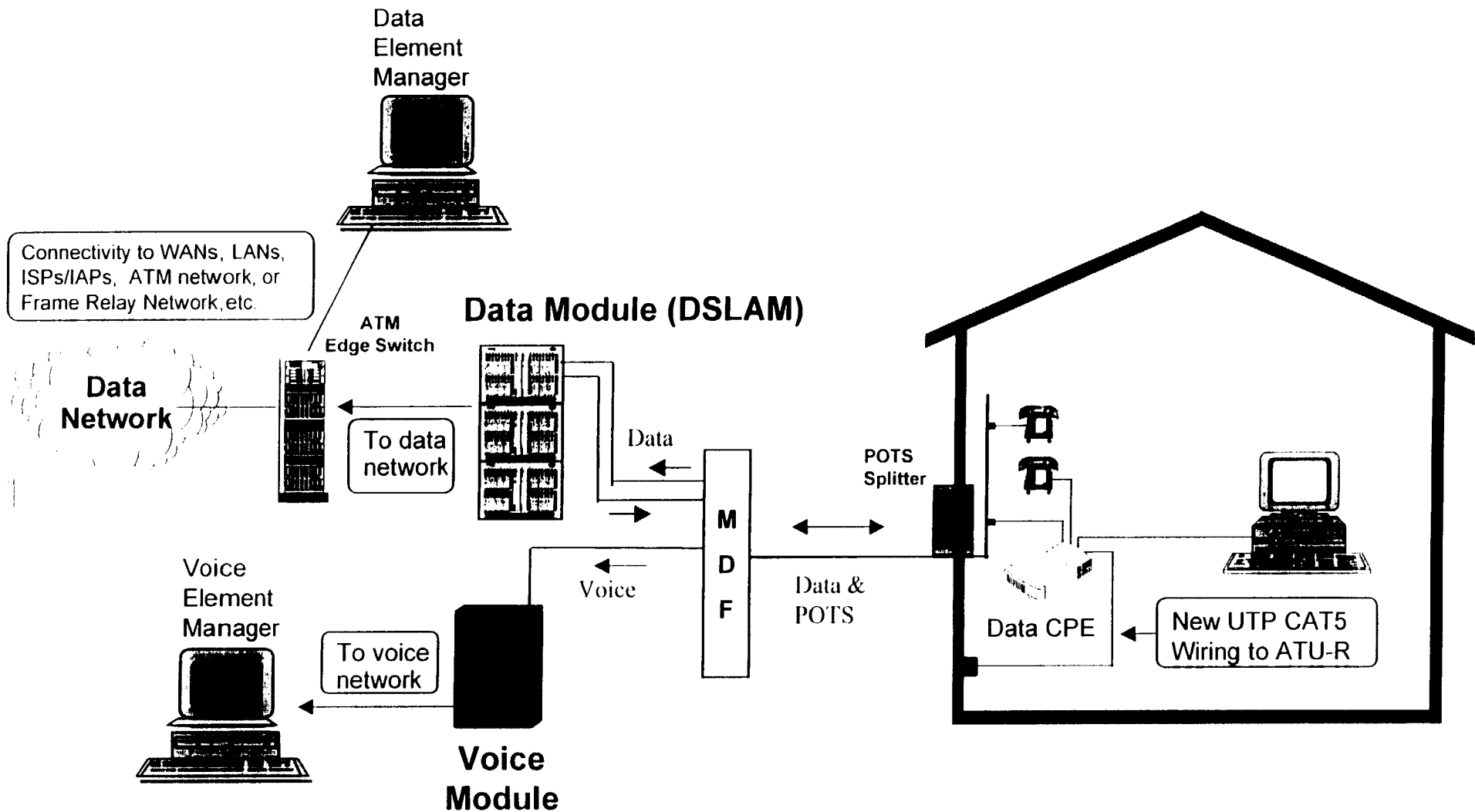


**Capital, Deployment & Operational
Costs for Voice & DSL Services**

Integrated DSL Deployment



Separate / Overlay DSL Deployment



Capital Equipment Costs to Service Provider

Range from \$500 - \$1500 per line*

SEPARATE VOICE & DATA PLATFORMS

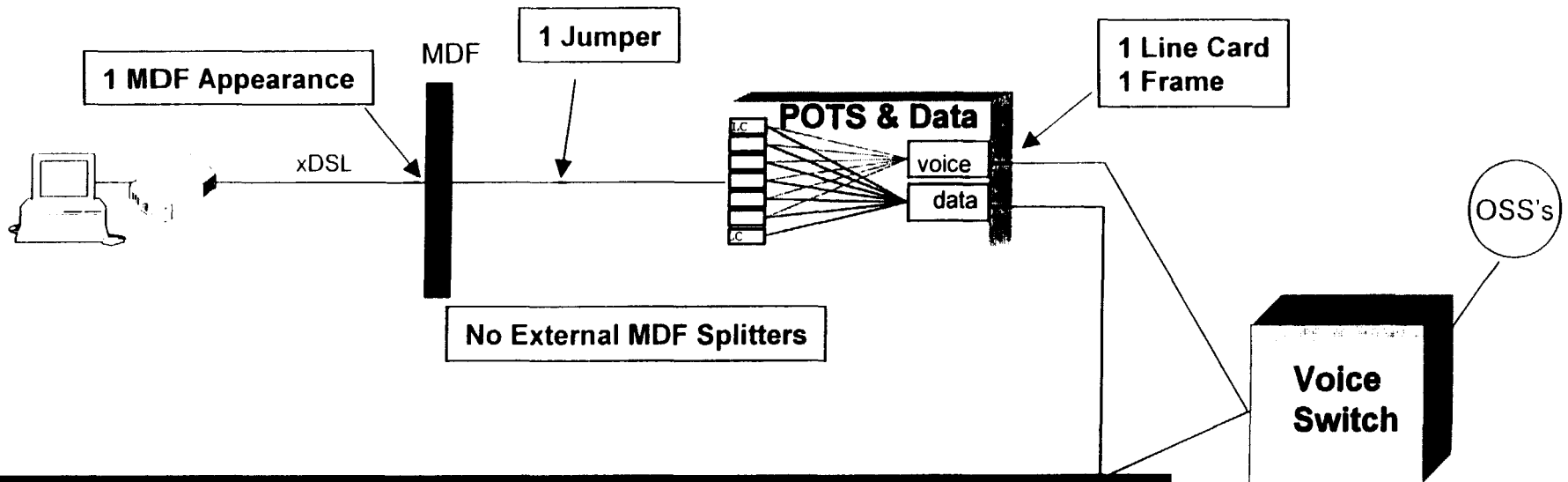
- EMS Workstation & Software (1)
- Voice switch
- *Line Cards (2)*
- *Common Cards (2)*
- *Shelves (2)*
- *Frames (2)*
- *Cooling Units (2)*
- *MDF POTS Splitters (1)*
- *MDF Appearances (3)*
- *Test Heads (2)*
- Data Transport
- Data Switch
- Data Service Gateway
- Data CPE
- Premise POTS Splitter & Rewiring

INTEGRATED VOICE & DATA PLATFORM

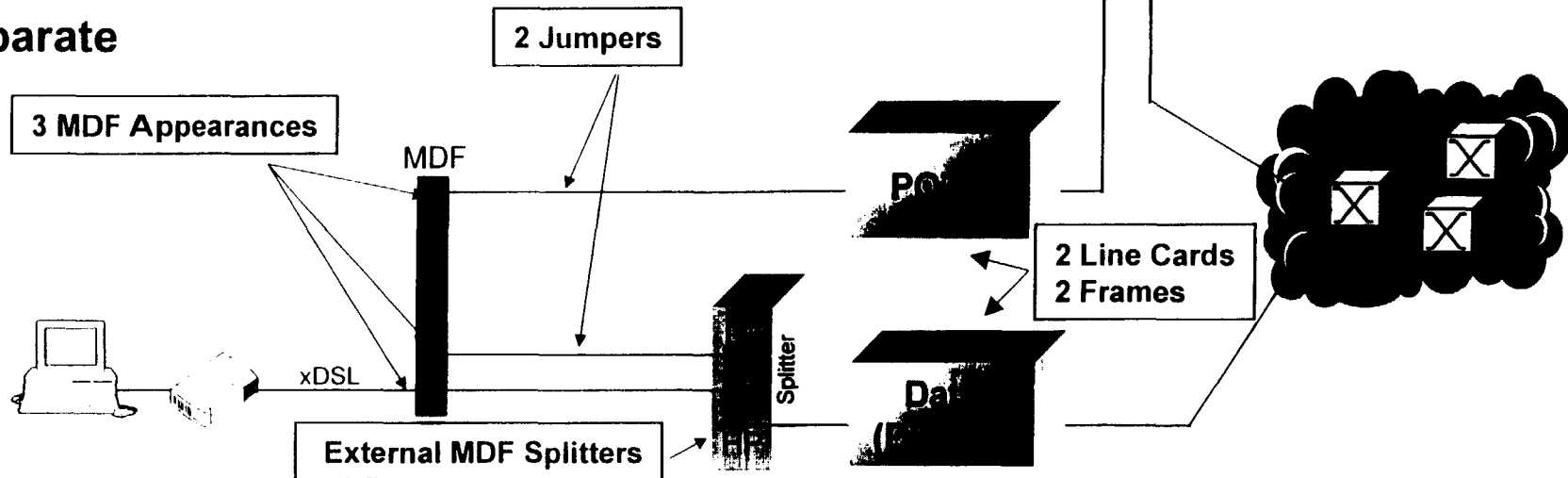
- EMS Workstation & Software (1)
- Voice Switch
- Line Cards (1)
- Common Cards (1 or 2)
- Shelves (1)
- Frames (1)
- Cooling Units (1)
- MDF POTS Splitters (0)
- MDF Appearances (1)
- Test Heads (1)
- Data Transport
- Data Switch
- Data Service Gateway
- Data CPE
- Premise POTS Splitter & Rewiring

Network Components For Voice & Data Service

Integrated



Separate



Additional Capital Considerations for Integrated Voice & Data Platform Deployment

Redeployment of Existing Voice Assets:

- **If use an integrated voice and data approach, existing service providers can utilize vacated POTS equipment (line cards, common cards, frame, etc.) for:**
 - **access line growth**
 - **modernization of old equipment to reduce operational costs of deploying Caller ID, SCWID, DSCWID, and Visual Message Waiting**
 - **\$75 - \$180 value**
- **If use an integrated voice and data approach, a single test head can be used for both voice and data. If have a separate data platform, the External MDF POTS Splitter prevents switch-based, above-band tests and a second test head is required for data testing.**
 - **Must purchase new ADSL test head in either case, but can redeploy, sell or write off the voice test head if an integrated voice and data platform is used.**

Deployment Costs - Provisioning

Service Order Processing:

- Loop qualification process must be implemented to determine if customer loop can support high-speed data. (Major expense to build database)

Central Office Plant Assignment:

- Existing databases can be used for central office records since if one line card for voice and data in the integrated approach. (No cost)
- Existing OSS must be modified or new OSS created if a second, separate line card is used for data. (Major capital cost)

Data Provisioning:

- Existing assignment processes can be easily adapted to provision DSL, like provisioning POTS features such as Caller ID, if one line card used for voice and data. (Minor capital cost)
- If separate line cards used for voice and data, new OSS must be created or existing OSS modified to automate data provisioning or manual provisioning processes implemented to provision data service. (Major capital or operational expense)
- Automated provisioning reduces craftsperson involvement from 42 to 10 minutes per service order. \$8.50 automated provisioning vs. \$35 for manual provisioning.
- *Also impacts ongoing operational cost as users change ISPs.*

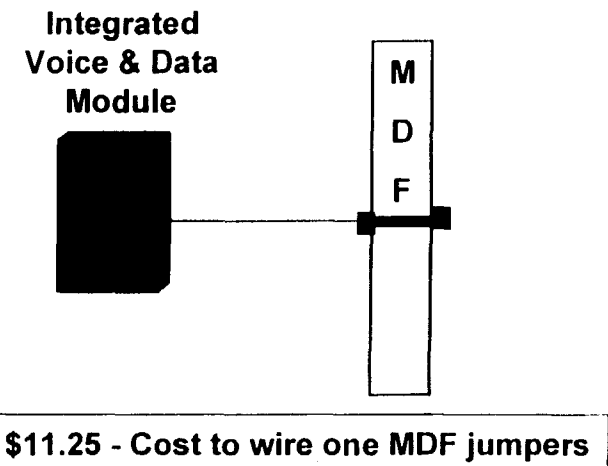
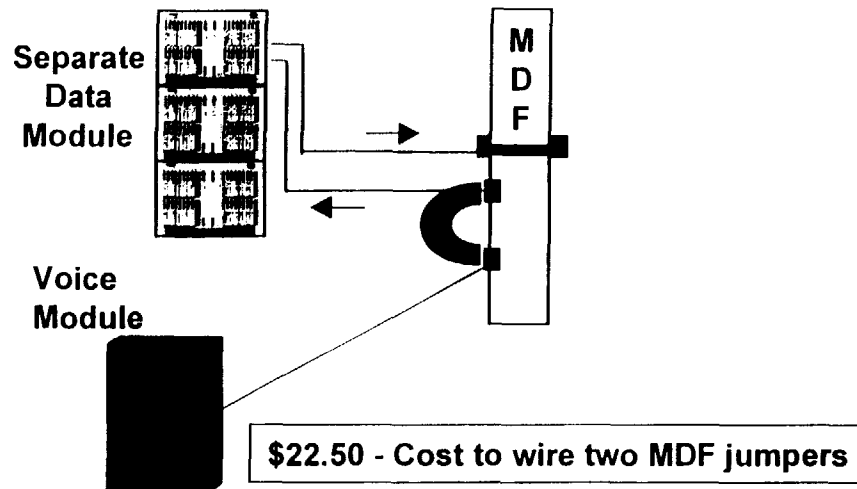
Deployment Costs - Main Distribution Frame Impact

MDF Grooming:

- Initial work required to rearrange MDF wiring so that 2 additional terminations can be made for each data line card installed in the central office if separate voice and data platforms are used.
- Capital implications for MDF exhaustion.

Central Office Craftsperson Labor:

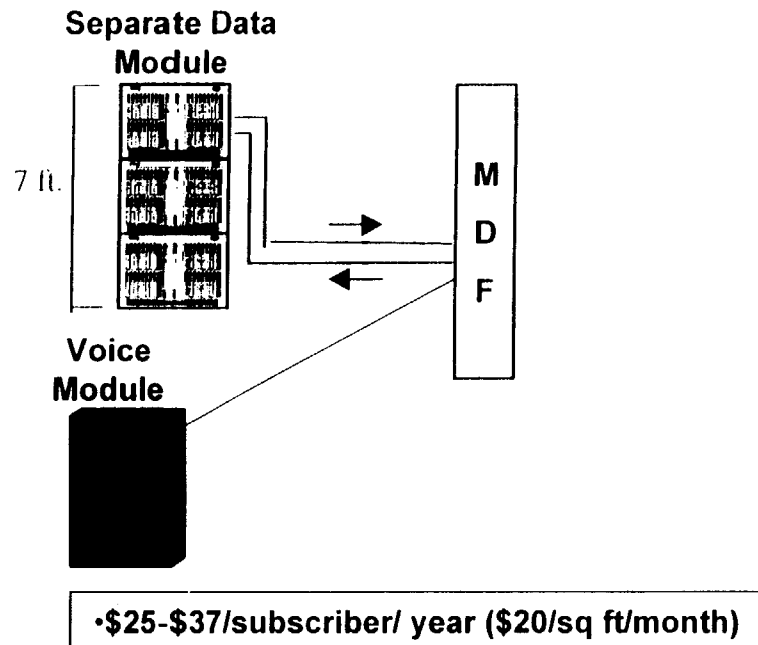
- Only one jumper needs to be wired, to move customer from a voice line card to a voice and data line card, if an integrated approach is used. While two jumpers need to be wired, one to attach the customers voice line card to the external POTS splitter and one to attach the external POTS splitter to the data line card, if a separate data approach is used.



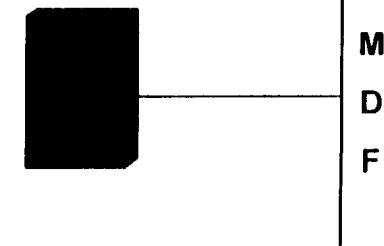
Operational Costs - Floor Space

Floor Space:

- A single integrated voice and data platform requires less floor space than two separate platforms. May become an issue as central office space dedicated to CLEC co-location cages.



Integrated Voice & Data Module



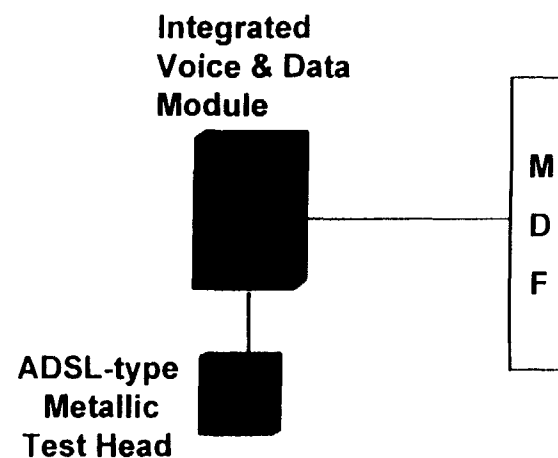
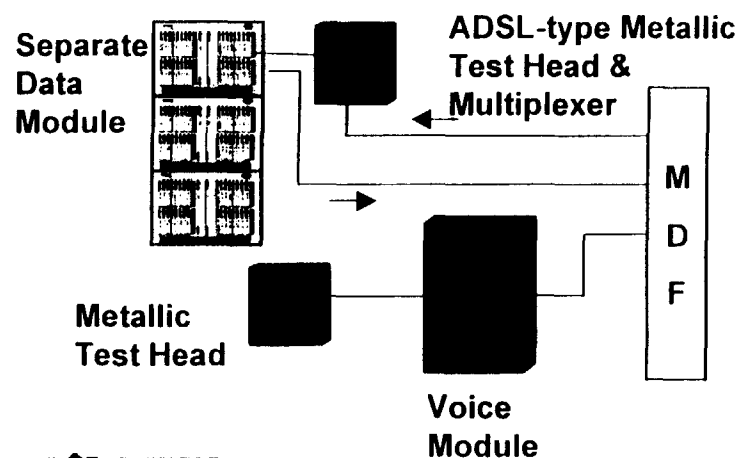
•\$11-\$23/subscriber/ year (\$20/sq ft/month)

Operational Costs - Maintenance

Craftsperson Labor / Customer Satisfaction:

- Additional MDF connections required for separate voice and data platforms extend loop by over 400m and increase possible trouble points (6 as opposed to 2 wire wraps).
- Additional jumpers required for separate voice and data platforms increase wiring complexity and introduce more chance for wiring errors.

Separate voice and data platforms also increase deployment costs because additional CO cabling needed to install test access for second test head.



Additional Capital Considerations for DSL Deployment at DLC Sites

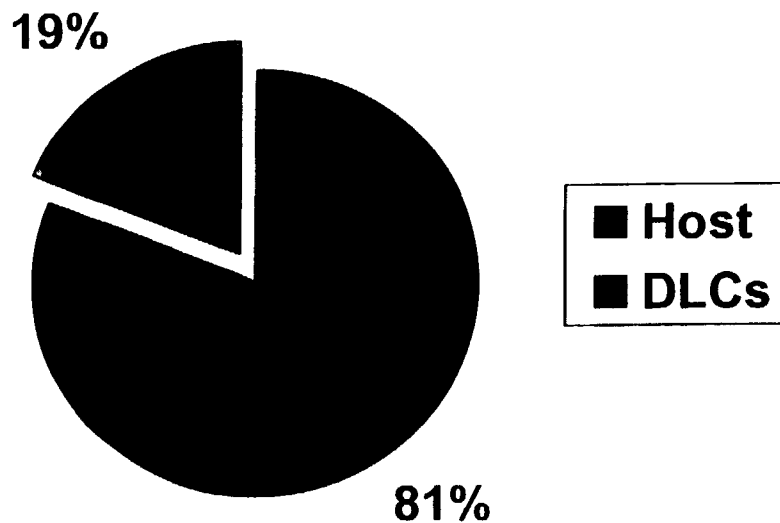
- **If separate voice and data platforms used, additional MDF Appearances will require major facility rearrangements in existing DLC locations**
 - **Only 1 MDF appearance available since feeder cable between DLCs and cross connect boxes sized for DLC line card capacity and hard wired to DLC system.**
- **Space limitations may prohibit collocation of two separate platforms for voice and data**
- **Power limitations may be exceeded by the addition of a separate data platform**
 - **Many remotes currently equipped at or above their designed power consumption and have no substantial power backup to support second system for ADSL services.**
 - **May need a DLC system upgrade to newer, lower-power line cards or a redesigned power management process which gives priority to the DLC system in case of power outages.**

Source: Bellcore "Solutions for Ubiquitous High-speed Data Network Access Services"

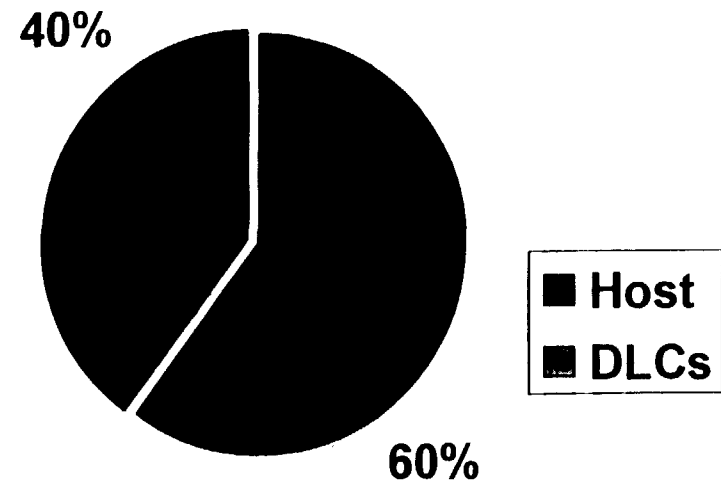
Service Ubiquity

Access lines served by DLC equipment

Average Number of Existing Customers Served By Hosts/DLCs



Average Number of New Customers Served by Hosts/DLCs



Source: Bellcore "Solutions for Ubiquitous High-speed Data Network Access Services"

Business Case for voice & DSL

- **Capital costs will differ based on volume purchases and existing voice switch and data network infrastructure.**
- **Deployment and Operational Expenses major factors in business case for DSL deployment. Major issues:**
 - Loop qualification
 - Plant assignment
 - Data provisioning
 - Distribution of CPE modems
 - Sales expense to explain data service (loop qualification, installation process, best effort data speeds, service offerings, etc.)
 - Network Maintenance
 - Customer Support
 - Craftsperson training